



The Newsletter of Monnett Experimental Aircraft, Inc.

July, August 1982

Dear Friends,

Welcome, all of our new subscribers! (and, of course, hello to all of you "oldies"). We received many new subscriptions during the Fly-In — many of you who are new Moni, Monerai, and Sonerai Builders. Welcome aboard.

Yes, I have to talk about the Big Event, as I called it last month, the E.A.A. Oshkosh Fly-In. What a year for M.E.A. There were so many highs but unfortunately some real lows. It was a roller coaster emotionally. Most of you have heard by now about the mid-air collision on Tuesday. It was a terrible tragedy and hit us all very closely. Joe Rudy was flying his Starduster in the fly-bys and giving Liz Drumm a ride. They collided with a Corbin Ace and all three were killed instantly. Joe was a friend of ours in Illinois for about 14 years. When we met him he was laboring away on his airplane. Labors of love as any one knows who has seen a Starduster under construction. Many of you may have seen Joe at Oshkosh. He had had his yellow duster with a big radial engine at the Fly-In for several years. He always wore his yellow hat and was the nicest guy you'd ever want to meet. Our condolences to his wife Barb, sons Kevin and Terry, and daughter Sue. Eighteen year old Liz Drumm was a good friend of our niece Jean Diedrich. They had met at the University of Illinois and were roommates their freshman year. They thought it would be fun if they both worked for us this year at the booth. In fact, Liz came a week early to help Jean stuff packets. It was a freakish thing — Liz wanted a ride in an airplane and they were both so excited about a ride with Joe. It was her first airplane ride. Liz was the daughter of Mr. & Mrs. Michael Drumm of Decatur, Il. and the second of ten children. She was such a delightful girl with a sparkling personality and all of us who met her this summer were certainly touched by Liz. Our thoughts and concerns are with her family and friends.

The high points of this year's Fly-In were many. M.E.A.'s airplanes were one. All of you who brought your airplanes — FANTASTIC! Best turn out yet. We gave everyone who brought their airplane this year a Sonerai or Monerai hat. There in lies a problem. Once again I did not get out to the flight line until late in the week and many of you were gone. So please write to me if you brought your airplane and are not on this list or did not get a hat. People kept telling us about all the nice Sonerai and Monerai out there — only sorry I did not see them all. Next Year!

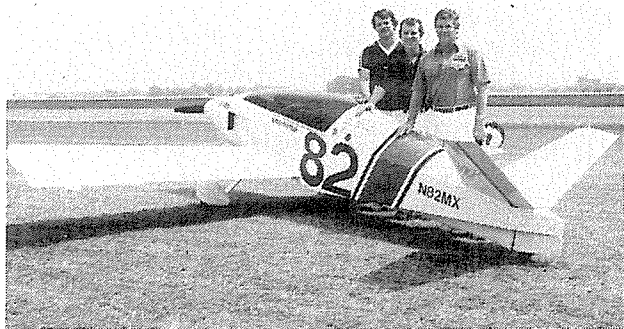
Sonerai at Oshkosh '82

Ron Bronne	.. II N8519J
Pete Buck	.. II N558PB
Gary Burnett	.. II N65MB
Mike Butler	.. II N4228L
Paul Crank	.. II N9562A
Jim Dilworth	.. I C-GUQS
Glenn Eisenbrand	.. II N2278G
Thomas Hall	.. II N1TH
Marland Malzahn	.. II N120MM
Pat Mangan	.. II N853OR
Randy Novak	.. II N79RN
Bob O'Day, Jr.	.. II N878E
Bob O'Day, Sr.	.. I N879E
James Pitchitino	.. II N44KC
Byron Poppenhagen	.. II N9028F
Lyle Roberts	.. II N5587L
Paul Sebern	.. II N408PS
Joe Sikora	.. II N13J
Edward Sterba	.. II N78ES
W. Wolland Sterchi	.. II N65WS
Chuck Stottlemeyer	.. II N59CS
Doug Whitesel	.. II N66DW
Ned Wood	.. II N5576B

Monerai at Oshkosh '82

John Caldwell	.. N424OR
Jim Frank	.. N2289
Harry Knight	.. N17HK
Jose Leon	.. N422OC

Our Builder's Party was another high point. We all thought it was a huge success. Thank you so much for coming, all of you. It is getting so large, John and I have to apologize for not getting to talk with everyone as we used to. But we know you all have "something" in common with everyone there and can rub elbows and enjoy conversation with each other. There were almost 400 this year and we really filled up that hanger showroom. It is great seeing all of you on a social basis. Thank you for all of the nice notes and letters you have sent us about our hospitality, new building, and the accident. It is so nice to get these notes. We do appreciate hearing from you.



The Monex was truly a high point. Here in the photo is Chuck Andrews, pilot; John, designer; and Randy Novak, crew chief; and of course N82MX. (Chuck and I call it the beast!) Chuck flew the Monex in the Lowers-Baker-Falk 500 Race here at the Fly-In on Monday. He took Third Place for efficiency and Fifth for speed. We missed Second place in the Baker by .4 of a mile per hour or .4 of a lb. of fuel in 500 miles! He went 500 miles on 80 lbs. of fuel. We expected to do better with speed but a few things slowed us down. The wing was out of rig due to a previous mishap and the prop spinner self-destructed during the race! Yet in all three competitions the Monex averaged better than all the other single place airplanes!

The next day Chuck and Monex set two unofficial World Speed Records in the FAI's new class C-la-O. The class was set for aircraft that have a maximum gross take off weight below 300 kilos (661 pounds). For the 100 kilometer title Chuck ran 185.12 miles per hour and for the 500 kilometer title he ran 182.308 miles per hour. Turbulence slowed him down a bit that day as in the Lowers-Baker-Falk Monex averaged 185 mph and had a corrected speed of over 203!

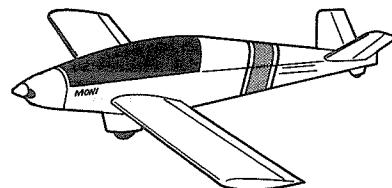
The Monex has not been without mishaps, that is for sure. We broke a few props and had to make a few last minute mods a couple of weeks before the Race. Thanks to Randy Novak's father-in-law, James Enking, 4th St. Aero, Beloit, WI, we got a prop in short notice. Bernie Warneke did a last minute prop for us also. Randy worked many long hours crewing and missed alot of the first few days of the Fly-In. We know many of you wanted to meet him and we are sorry about that but Chuck was very glad to have him!

All in all, John and Chuck were very happy with the showing of the Monex as it was the first time out and not designed for competition. Everyone had to work hard to make it even partially competitive. You may see it again next year with a few more mods. One thing we've learned through all these teething pains—the Monex is too hot for the average pilot!

Which brings me to our pilot, Chuck Andrews. Thanks to Chuck for all his efforts and fine showing with Monex. You have all heard his name mentioned in the racing circuit for years and know of Real Sporty and Moonshiner of Formula One Racing Fame. Chuck has 23,000 hours as a pilot, is a retired Air Force Major and now flies a King Air

and a Hughes 500D for Appalachian Tire Products in West Virginia. But one of the other neat things surrounding Chuck is his wife Barb! It was certainly nice to get to know her. She and Chuck made a few trips to WI during the preparations and, as is one advantage of this airplane business, we value another friendship made!

moni



Look for more exciting press about MONI! Many of you have seen *AOPA Pilot* August Issue with Moni on the cover and a flight report by Ed Tripp. Ed is coming back to fly Moni again in better weather. He flew it on a terrible day with winds up to 30 mph. He was bounced around and it was certainly not the best situation for him to fly the airplane for the first time. LeRoy Cook for *Private Pilot* will be doing a flight report in the October Issue we believe and Peter Lert for *Air Progress* was just here and will be writing a piece for the November Issue.

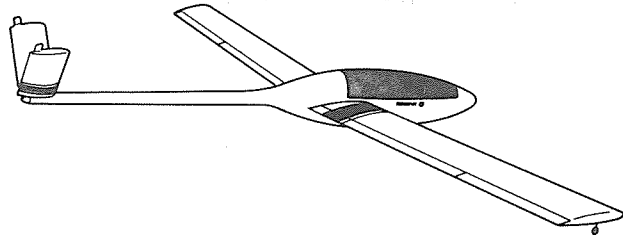
The kits are fairly complete now. We have another shipment of kits ready to go except for canopies and we are promised them very soon. The Hardware List is complete and those back ordered items are going out now. Randy is busy building the second set of long wings for the Moni #2 and checking the plans as he goes. This second Moni should be flying soon — by the time you read this. We didn't make it by the Fly-In to have it flying but it was completed and on display with the short wings. John and Randy are also working on a smoke system for Moni and a set of floats!

If you went by the KFM booth at Oshkosh, you may have seen the KFM 105 2 cylinder 2 cycle 40 hp engine on display. Next Spring we expect to be doing flight testing on the first 105 engine as we did with the 104 and 107 engine. This may lead to a very interesting airplane which is a blend of Monex and Moni ideas! We will keep you informed of our progress on this project. Construction of this new prototype will probably begin after the first of the year.

John asked me to mention that he is testing a new TPX-720 Terra Radio. It is a 720 Channel Transceiver, light, compact, panel mounted, a neat installation for Moni or Sonerai or Monerai—any of our airplanes. It works in a minimum amount of space, puts out 5 watts of power, has a simple push button channel selection. It will be available soon as well as the hand held 720 Terra we now sell.

I know several Moni builders are well along in their projects as they talked with us at the Fly-In. If any of you have any progress photos or builders' tips, be sure to send them to me for your column here.

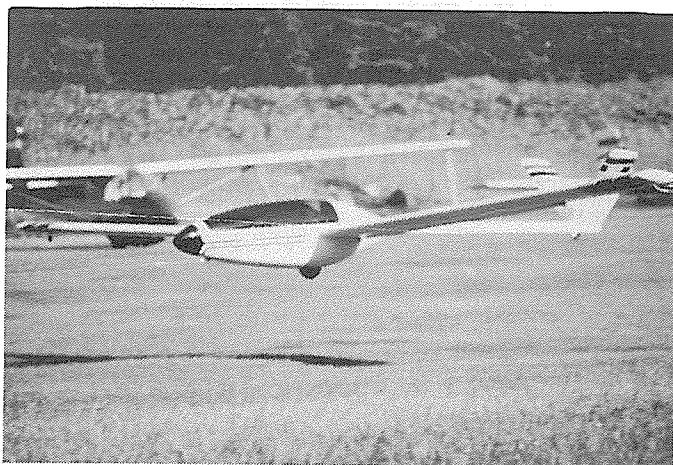
monerai



John did fly the Monerai at the Fly-In with the KFM 107 Power Pod. It is difficult getting that long wing span airplane out on the flight line—for sure! This Power Pod installation is still not quite ready for sale. We are still working on optimum installation. After the Fly-In the Engine Pod was sent to CA to Proto Pipe Specialties for exhaust system development. We expect it back in a reasonable time. This should significantly improve the power output and reduce the noise level. Remember Moni last year? You may have noticed it is much quieter now due to prop change and exhaust system refinement. John and KFM are doing their best to get this power pod developed and available to you builders. More progress next issue.

First Flights

Virgil Paggen #172
123 Loomis St.
North Granby, CT 06060



First Flight - July 5, 1982

Virgil writes: "Just a quick note to let you know that Monerai #172 flew for the first time on July 5. The day was perfect, the Monerai superb. No PIO on take off, no oil canning, modified trim system is excellent, very solid feel on tow—easy to fly. The ship stalls exactly as advertised, clean and straight ahead. Landing, my biggest concern, was a piece of cake. I should mention that the day was calm—no thermals, or wind when test flown. I'm pleased with Monerai..... Monerai test flight was my 60th glider flight. Previous experience was 2-33's, 1-26 and Lark.")

(Ed's note: *Now that is a flight report! Thank you, Virgil.*)

News From Builders

Lyons Township High School #194
Bill Garton, Instructor
100 S. Brainard
LaGrange, IL 60525

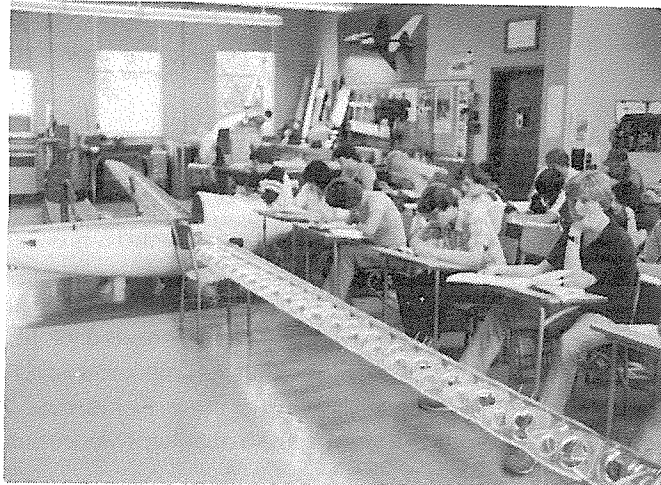
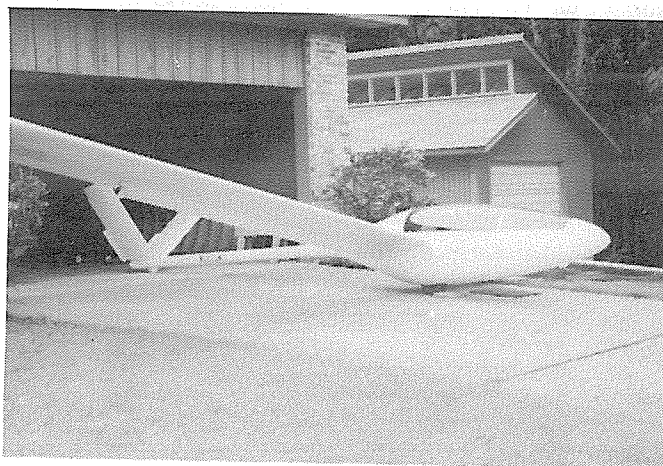


Photo shows their progress. What a way to study, with a Monerai in the middle of your classroom!

Jim Necessary #222
119 Leewood Drive
Arkadelphia, AR 71923



Complete and awaiting final inspection.

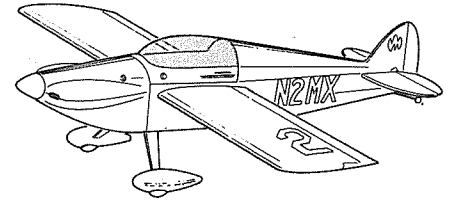
Jim writes: "... a local Ford dealer painted the Monerai with DuPont Centauri acrylic enamel w/hardener over epoxy primer after DuPont's recommended cleaning and preparation. It's very satisfying in my opinion."

Builder's Tips

Sam Phillips #323
8537 Lubao Ave.
Canoga Park, CA 91306

Sam writes: "During the inspection to lift my flight restriction it was noted that the skin had started to delaminate from the rib at the cut out section. I fixed as shown..."

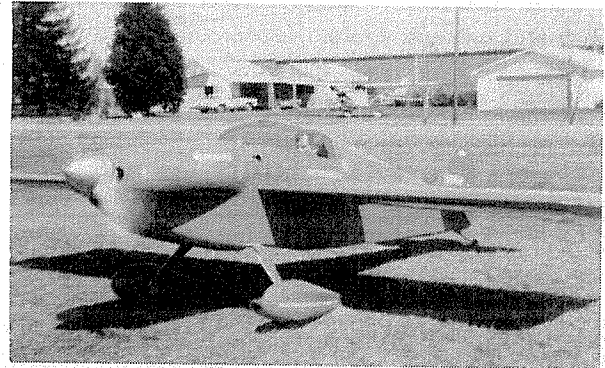
sonerai



The only Sonerai news around the shop is that the KFM 104 4 cylinder 4 cycle is on its way back to Italy for more testing. Now 2MX Sonerai II mid-wing is being installed with its VW again and the guys hope to have it flying again soon.

First Flights

Lewis Gerding #531
207 N. Chapman Street
Chesaning, MI 48616

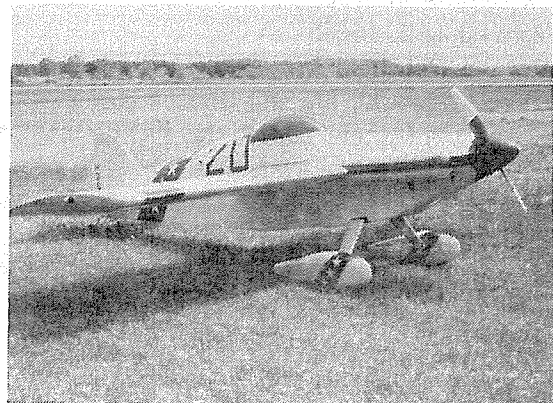


First Flight - June 12, 1982

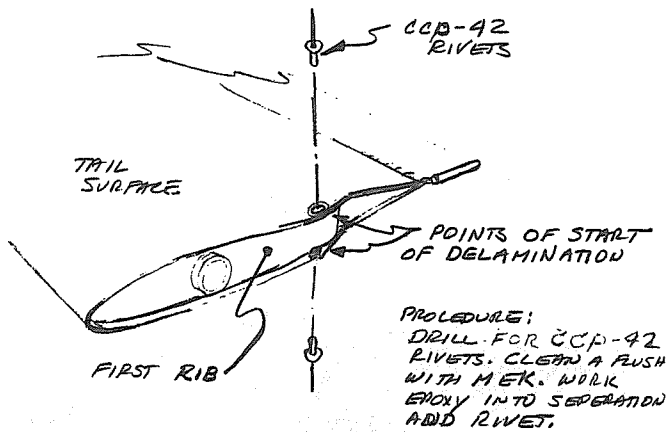
(Ed. Note: Lewis has an all sassy grass green Sonerai with white lettering and I could swear it looks like John in the cockpit!)

News From Builders

Chip Schafer #329 I
25101 Glenbrook
Euclid, OH 44117



Ready for inspection.



Sam has a very complete annual checklist that his FAA EMDO wanted made up. If anyone is interested or has need of such a list for their EMDO, just let me know and I'll send you a copy. Sam says he has three flights over 2 hours and above 12,000 feet in the Tehachapi Mountains!

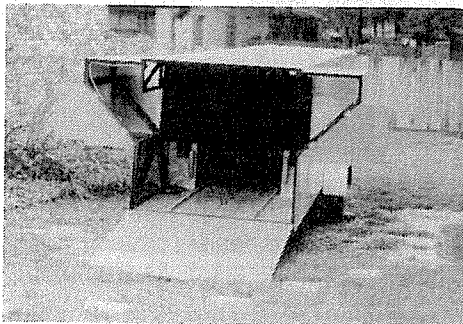
For Sale

Ray Konrath #3
10629 Essex
Westchester, IL 60153
312/562-5151 evenings

Monerai wing and tail jigs, 1 x 2's, and sand bags . . \$175

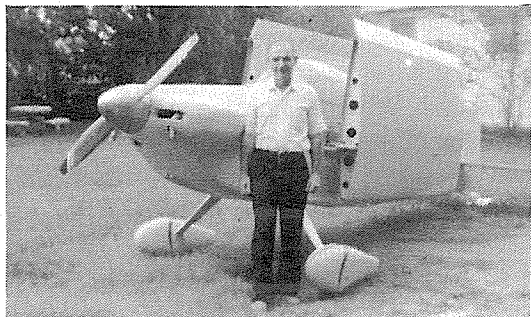
Jim Necessary #222
119 Leewood Drive
Arkadelphia, AR 71923

My wing, tail surface, and welding jigs are available to anyone close enough to justify the trip. Make an offer.



Jim has drawings for this trailer available for \$30.00 a set. "My trailer tows real fine and feels solid as a tank. I covered mine with .045" 5052 Aluminum full length sheets obtained from a local boat manufacturer. The frame will accept about any type of covering desired. My front access door was modified from a near-discard door (\$5) obtained from an RV dealer. It hinges up and fits the opening shown on the drawing. All other items were purchased new. The trailer is big enough to allow wing panels to be carried in and out. The tongue was made to tilt the trailer....."

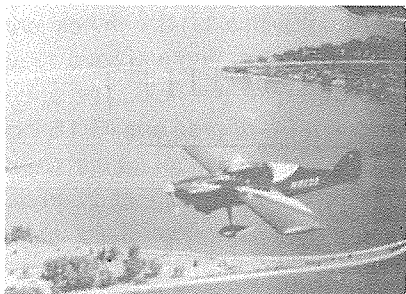
Roy E. Dase #321 II
Box 872
Onalaska, TX 77360



Roy was ready for taxi testing July 31st. Should be flying at Kerrville.

For Sale

Dan Eikleberry #161 II
205 Colmar Lane
Great Miles, MD 20634
301/863-8190 work
301/862-1294 home



Sonera II N56DB plans number 161. Has just over 50 hours total time. Monnett Supervee Engine - Lots of Goodies. Each wing has a 4½ gallon fuel tank - total fuel 19 + gallons. Price \$8500.00. For an extra \$2000 will include Com/Nav radio and transponder. "If buyer is not in a real hurry and lives in the eastern half of the US, I will deliver the plane for free."

Marland Malzahn #270 II
W 9570 Why F
Antigo, WI 54409
715/623-5366

VW 1700 cc EV. Complete E.V. Conversion with Alternator. T.T. 96 hours.

Randy
414/426-2763 evenings

Sonera II Mid-wing with low time. 2180 cc Engine. Asking \$9000.00

Service Available

Classic Air
414/426-2763 evenings

We will fabricate or finish parts for your Moni, spar fittings, spars, etc.

randy's handy dandy's

(Gee, I'm glad you have such a neat name, Randy.)

Moni Builders

Landing Gear. The landing gear on the Moni must be built to fit the inside of the tunnel (approx. five inches wide). There is not a dimension for landing gear width shown in the plans because of the manufacturing tolerances that usually occur. The recommended way to assemble the gear is to make all of the gear legs and assemble the right and left side legs together using the 1/8 inch aluminum gusset plate. Be sure to adhere to the dimensions shown in the plans. Now that you have complete left and right gear legs, simply attach them into the inside of the tunnel, drilling and clecoing from the outside as the pattern indicates. After the legs are installed in the tunnel, you then add the front .040 inch aluminum web, making sure that the legs remain parallel to each other while drilling. The width of the web is less than that of the tunnel. Center the web on the legs, leaving equal spacing on both sides. You now have a landing gear made to fit in the airplane.

Counter sinking .040. When drilling and countersinking any of the .040 aluminum material, care must be taken to avoid countersinking too deeply and/or enlarging the rivet hole. Use only a 120 degree c'sink bit and go only deep enough so that the rivet (use a rivet as a depth gauge) head just fits flush with the surface, there should not be any of the counter sunk portion of the material visible around the rivet head. This does mean that if a dimpled piece fits over the c'sunk piece, the dimpled material may not fit completely flat down over the other material, due to the c'sink not being deep enough. However, to exceed those limits called out above will mean a loss of strength. If an occasional hole should become oversize, then as a safety measure, you should add a small washer under the pulled head to provide greater bearing area. Drilling the holes with a #40 or 3/32 inch drill bit, using a 120 degree c'sunk bit with a 3/32 inch pilot, and then drilling out to 1/8 inch will help prevent oversize holes. The use of a micro-stop c'sink will help, once the depth has been adjusted.

Sonerai Builders

Spinner installation. The spinner is held onto the propeller by the rear and front bulkhead. The rear bulkhead is sandwiched between the rear of the propeller and the propeller hub (holes for the propeller bolts must be drilled in the bulkhead). The spinner must be cut out for the propeller. This must be done on a cut and fit basis until there is sufficient clearance around the prop blades to allow the spinner to fit firmly on the bulkheads. For smoothest airflow, the gap between prop and spinner should be as little as possible without actually touching. The spinner track can be checked by clamping a pointer of some kind (awl, pencil, etc.) to a fixed object in front of the plane. Adjust the pointer so that it almost touches the center-tip of the spinner, and rotate the propeller slowly backwards, noting the spinner tip movement relative to the pointer. Once the spinner fits well, mark and drill through the spinner into the bulkheads, checking the spinner track occasionally. The spinner should be held to the front bulkhead with a minimum of four screws, and to the rear bulkhead with a minimum of 10 screws. 8-32 machine screws of either the round-head or c'sunk type (with c'sunk finish washers) will work well. Nut plates must be used with the front bulkhead, whereas nut plates or self locking nuts will work with the rear bulkhead. The blade cutout must be of a smooth profile and should be filed and sanded to a smooth nick-free edge, as it is an easy source for cracks to develop.

Engine mounting. Mount the Engine to the Airframe using the aluminum spacers shown in the catalog. The rubber mounts are meant to be used with a 3/8 inch I.D. X 1/2 inch O.D. steel bushing 1 3/4 inch long used inside of them. A piece of 1/2 inch X .058 inch wall tubing works well. 3/8 inch diameter bolts are used for mounting. An AN970-6 washer is to be used on each side of the rubber mount. Torque the nuts to 175 inch/pounds.

Grounding. A ground strap of 14 gauge stranded copper wire should be connected between the engine case and the firewall/airframe. This is for proper magneto and alternator operation.

Posa Carb. Hose mount the carburetor to the intake manifold with the hose and clamps provided. Use 1/4 inch I.D. flexible fuel line and hose clamps to connect the carb. to the firewall mounted gascolator (fuel sump). The line should be free of kinks and loops where air bubbles could be trapped. A fuel pressure regulator is not normally used. The posa-carb. does not require any specific head pressure, since each carb. is tuned to the particular fuel system. It will operate well on minimal fuel pressure (3/4 lb.), since it will draw its own fuel supply once the engine is running and manifold pressure at the fuel orifice has dropped below atmospheric pressure. The throttle may be con-

nected in two different ways. The first and simplest is to use a stranded motorcycle throttle cable and housing, while retaining the return spring in the carb. slide. The larger swedged barrel on the end of the cable fits into the slide receptacle, the other smaller swedged end is cut off and the cable is removed from the housing to route it through the carb. adjuster, housing, and up to the throttle arm. The back of the carb. must be removed to hook up the cable and install the return spring. Care should be taken when working with the throttle slide, with the backplate off, that the taper needle is not bent or damaged in the orifice. When using this system a friction lock must be used on the throttle arm, otherwise, the throttle will constantly go to idle. The disadvantage to this system is that should the cable ever fail, engine power would return to idle.

The alternate method is to use a 1/16 inch solid wire push-pull cable and housing. This method does not use the return spring, which means that if the cable fails the power will stay as it is at the time of failure. However, because of the single solid wire, it is more subject to wear. A steel barrel will have to be fabricated to retain the throttle slide end of the wire. The barrel is 1/4 inch in diameter and approximately 3/8 inch long, with a 1/16 inch hole drilled through the diameter, in the center, and a groove 1/16 inch deep filed along its length, over the hole. The end of the solid wire is bent to form a 90 degree arm, 3/16 inch long. The wire is inserted through the barrel so that the short arm is resting in the filed groove. The wire and barrel assembly is installed in the throttle slide and is routed up to the throttle arm. Either type of cable is connected to your throttle arm with a swivel cable retainer (available from most bicycle shops), or a small bolt with a 1/16 inch hole drilled through the shank so that the nut would pinch the cable in position. The cable assemblies should be well greased during installation and should be inspected and re-lubricated at each annual or 100 hr. inspection.

The carb. mixture will probably have to be adjusted during the initial run-in period. This is done by turning the needle valve in or out (in to lean, out to richen), or replacing the needle with a smaller or larger numbered one. Needles are numbered to indicate their size, with a number 5 offering greater fuel flow than a number 1. The flat of the needle must always be pointing up or to the intake manifold side of the carburetor. A needle should not be turned out more than 18 turns. Normal procedure is to start with a #3 needle 10 turns out. If necessary, adjust the needle so the engine idles and will take throttle smoothly. If the engine hesitates or quits during throttle application the mixture is too lean and the needle must be turned out. After the carb. is adjusted so that it takes throttle well, it can be left at this setting for the first 1/2 hour or so of ground run time. Adjust the idle speed to 1000-1100 rpm. If the engine runs well at higher power settings, but is excessively rich at

idle, go to a larger numbered needle, and adjust it as you did the previous one. If the engine runs well at higher power but is too lean or quits at idle, go to a lower numbered needle. In theory, the taper of the needles are ground so that the larger the needle number the larger the degree of taper. Example: If both a no. 2 and a no. 4 needle are set at 10 turns out, the no. 4 needle will allow more fuel flow with the throttle wide open. Therefore, if both needles are adjusted at full throttle to give the same fuel flow (the no. 4 needle may be at 6 turns and the no. 2 at 10), the no. 4 needle will offer less fuel flow at idle than the no. 2. So, if you get the engine running well, takes throttle easily, and runs well at high power settings, but you notice at idle the engine gallops and puffs black smoke, try the next size larger needle set to fewer turns out.

After the engine is adjusted and running well, clean the spark plugs out with solvent. Re-install and run the engine at high power for four or five minutes. Remove the left front plug. It should be a light tan color, white indicates lean, black or dark brown indicates rich. This test should only be done after the engine has at least one hour of ground operation, and do not exceed any engine maximum temperature limits.

An air filter is not normally used, because of fuel overflow during start-up. However, a brass screen may be installed.

Randy Novak

Immediate upcoming events for our calendar include:

The Ultralight Fly-In over Labor Day weekend here at Oshkosh. Of course, we will be here. It will be interesting to see what this event will be like.

Kerrville, TX. Southwest Regional Fly-In.

Sept. 17-18-19. John has decided to attend this fly-in in Texas with the Moni. Hope this is not too late for some of you in the Southwest to catch him there if you want to see Moni fly and check it out first-hand.

Janesville, WI. Fly-In. Sept. 25 & 26

We plan to attend enmass here to this fly-in so close to us!

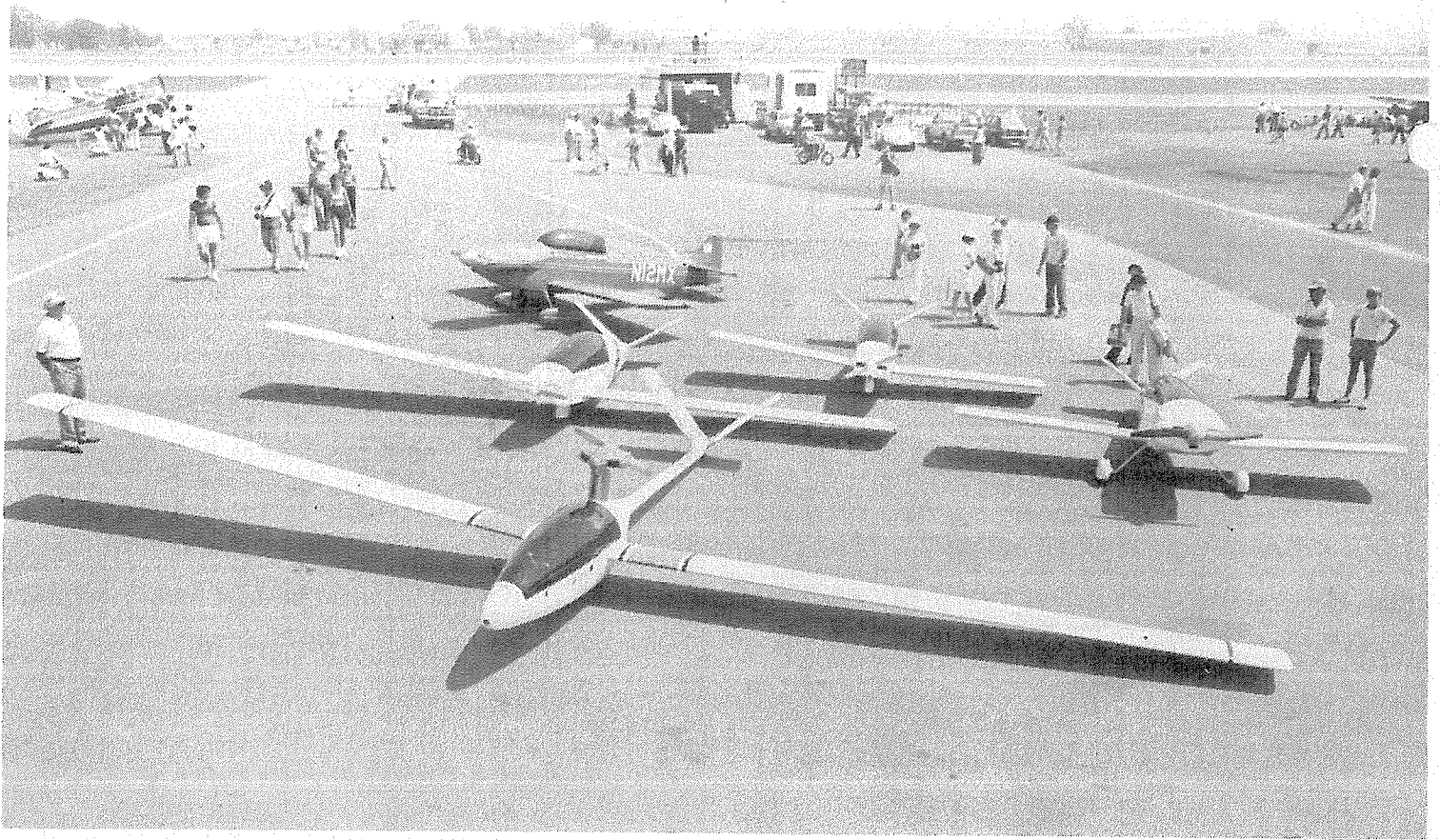
Unfortunately, we have had to cancel the tour we spoke

of last newsletter to Kansas City, Tulsa, Dallas, St. Louis. We are sorry if some of you were counting on this. It barely got off the ground in the planning stages when John realized this would be very difficult and there were far too many demands here to spend this much time on the road now. Instead he has decided to attend Kerrville. We will be having workshops here in Oshkosh early this winter. Details and dates will be in the next newsletter. Again, we are sorry and hope that you can make arrangements to come up here for a workshop in the future.

A last few notes about Oshkosh '82 Fly-In. If you saw any little green people running around, those were our kids! They really got into this dressing in green and white and enjoyed hauling Grandma through the fly market everyday. Maybe next year we can find them a job. They did enjoy serving coffee and did talk to a few people. As this was their first Fly-In, I think they did real well as the 3 little JTM's. In closing I want to say thank you to all the people who helped us out during the Fly-In. I thanked all of you, our customers, but so seldom do we thank those who work for us. Everyone was under great "duress" during this week; working very long hours, under many variables, working and planning for the unknown this year! Thank you to our regular staff: Carol Wolff, Betty Evers, Don Hardy, Randy Novak, Pat Mangan, Dale Schmidt, Ken Appleby. You worked above and beyond! A special thanks to all the extra help from friends and family: Our niece Jean who worked all of July putting up with her Uncle John and then enduring such a terrible tragedy. Dad Monnett who was there pinch hitting in all corners as usual - what would we do without you, Dad. My Mom who manned the helm at the house, kept the night light burning for us, and made our kids very happy that week. Barb Hardy, Don's wife, who came from their home in Indiana for the week and worked long hours, learned the catalog in one night, we hope she moves to Oshkosh soon! John Brosseau who comes from Elgin every year to help us and do whatever we ask of him. He has been a friend and loyal supporter for many years. John and I want to thank all of you for your help and support.

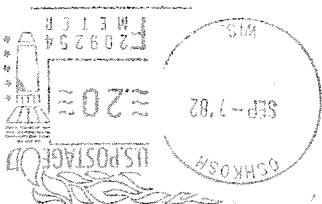
Least I get too maudlin and begin to sound like the Academy Awards, Bye til October,

Betty Monnett



"Oshkosh '82 — Interview Circle"

Frederick Kelp III, #356
11420 Elk Mtn Road
Franksville, WI 53126
ex. 9/82



monnett experimental aircraft, inc.
p. o. box 2984
oshkosh, wisconsin 54903

